

## Jianwei Xu's Notebook

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### 07/11/16

Work finished:

1. Clear the framework about the DNA storage software, as well as the way to the initial realization.
2. Re read the articles related to DNA storage, master the specific steps to achieve storage.
3. Learn the contents about HTML and JavaScript.

Problems unsolved:

1. Clear the role of variable ID and calculation method in the DNA storage implementation steps.

### 07/12/16

Work finished:

1. Master the HTML initially, prepare for a simple web.
2. Try to build a framework for Bio101.
3. Learn JavaScript.

Problems unsolved:

1. Continue to improve the framework of Bio101.

### 07/13/16

Work finished:

1. Preliminary completion of the Bio101 front-end framework.
2. Start back-end programming.
3. Learn CSS to beautify the front-end.

Problems unsolved:

1. Front end beautification.
2. The connection of front-end and back-end.

### 07/14/16

Work finished:

1. Continue to learn CSS.
2. Try to beautify the web.

Problems unsolved:

1. Continue to beautify front-end.
2. Perfect back-end.

### 07/15/16

Work finished:

1. Continue to learn CSS.
2. Find a suitable compression scheme.
3. Find a program to convert a byte stream into a DNA.

Problems unsolved:

1. To understand the compression process.
2. Find out a more suitable program to transfer.

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### 07/16/16

Work finished:

1. Analysis the FSE and HUFFMAN compression algorithm code.
2. Learn CSS and JavaScript.

Problems unsolved:

1. Continue to read the code, think of ways to call the algorithm.
2. Perfect the web.

### 07/18/16

Work finished:

1. Understand the tools to develop web front-end such as jQuery UI, Bootstrap.
2. Design the website using Bootstrap.
3. Make the FSE algorithm run up preliminary, but don't know how to call.

Problems unsolved:

1. Design the front-end framework of web.
2. Continue to make it clear how to use the FSE compression algorithm.

### 07/19/16

Work finished:

1. Learn Bootstrap, JavaScript.
2. Design the web using Bootstrap.

Problems unsolved:

1. Design the front-end framework of web.

### 07/20/16

Work finished:

1. Learn JavaScript and jQuery.
2. Look through the different wiki and find the source for designing.

Problems unsolved:

1. Design front-end.

### 07/21/16

Work finished:

1. Design a home page preliminary.

Problems unsolved:

1. Continue to design front-end.

### 07/22/16

Work finished:

1. Determine the design for web preliminary.
2. Design and beautify the web.
3. Finish report.

Problems unsolved:

1. Optimize web and add the functions and elements.

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## 07/25/16

Work finished:

1. Add the element of waiting to load to the web page.
2. Learn JavaScript.
3. Help Scientist group write a MATLAB program.

Problems unsolved:

1. Continue to design web page.

## 07/26/16

Work finished:

1. Design web page.
2. Learn JavaScript, HTML DOM, jQuery.

Problems unsolved:

1. Continue to design the web page.

## 07/27/16

Work finished:

1. Scan other iGEM teams' safety part, and write Bio101 safety part.
2. Learn jQuery.

Problems unsolved:

1. Complete safety part and other parts.

## 07/28/16

Work finished:

1. Complete Bio101 safety part.
2. Find some contents related to DNA storage from other iGEM teams and papers to analysis our project advantages and improvements.

Problems unsolved:

1. Analysis Bio101 and related projects about improvements and advantages to write documentation.

## 07/29/16

Work finished:

1. Scan 2010 CUHK project and analysis its method, but contents in its wiki are not comprehensive, we should understand deeply.
2. Read literatures related to DNA storage to analysis our advantages and improvements.
3. Start to write project improvement documentation.

Problems unsolved:

1. Need time to read related literatures.
2. Continue to finish documentation.

## 08/01/16

Work finished:

1. Complete improvement documentation of Bio101.
2. Learn how to use blast to make sequences compared.

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3. Learn XML.

Problems unsolved:

1. Continue to understand contents related to blast.
2. Realize to make blast call.

### **08/02/16**

Work finished:

1. Be familiar with the online using method of blast.
2. Try to download blast to make call.
3. Study the blast algorithm.

Problems unsolved:

1. Understand blast algorithm.
2. Make C++ source code in blast clear.

### **08/03/16**

Work finished:

1. Understand blast algorithm preliminary.
2. Configure blast in the local, and carried out a preliminary call.
3. Look up risk sequences.

Problems unsolved:

1. Continue to be familiar with blast call in the local.
2. How to build our own blast database?

### **08/04/16**

Work finished:

1. Complete blast call in the local.
2. Complete to build blast database about risk Biobricks.
3. Complete to look up risk sequences, produce DNA which doesn't contain risk Biobricks.
4. Perfect Bio101 documentation.

Problems unsolved:

1. Continue to perfect documentation.
2. Help Scientist finish program.